

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner <u>Initial*</u>	Patent <u>Number</u>	Issue <u>Date</u>	Name
_____ A1.	6924109	08/02/2005	Melcher
_____ A2.	6902883	06/07/2005	Dunlay
_____ A3.	6875578	04/05/2005	Giuliano
_____ A4.	6759206	07/06/2004	Rubin
_____ A5.	6716882	04/06/2004	Haces
_____ A6.	6716588	04/06/2004	Sammak
_____ A7.	6716582	04/06/2004	Gonye
_____ A8.	6671624	12/30/2003	Dunlay
_____ A9.	6620591	09/16/2003	Dunlay
_____ A10.	6590093	07/08/2003	Scaringe
_____ A11.	6573039	06/03/2003	Dunlay
_____ A12.	6544790	04/08/2003	Sabatini

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

<input type="checkbox"/> A13.	6514464	02/04/2003	Knebel
<input type="checkbox"/> A14.	6416959	07/09/2002	Giuliano
<input type="checkbox"/> A15.	5399663	06/04/2002	Haces
<input type="checkbox"/> A16.	6331441	12/18/2001	Balch
<input type="checkbox"/> A17.	6111086	08/29/2000	Scaringe
<input type="checkbox"/> A18.	6110916	08/29/2000	Dunlay
<input type="checkbox"/> A19.	6008400	12/28/1999	Scaringe
<input type="checkbox"/> A20.	6989835	11/23/1999	Dunlay
<input type="checkbox"/> A21.	5889136	03/30/1999	Scaringe
<input type="checkbox"/> A22.	5834439	11/10/1998	Haces
<input type="checkbox"/> A23.	5811274	09/22/1998	Palsson
<input type="checkbox"/> A24.	5674908	10/07/1997	Haces
<input type="checkbox"/> A25.	5674108	10/07/1997	Rolle
<input type="checkbox"/> A26.	5487872	01/30/1996	Hafeman
<input type="checkbox"/> A27.	5457527	10/10/1995	Manns
<input type="checkbox"/> A28.	6951757	10/04/2005	Sabatini

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

<u> </u> A29.	5998203	12/07/1999	Matulic-adamic
<u> </u> A30.	5591721	01/07/1999	Agrawal
<u> </u> A31.	5658731	08/19/1997	Sproat
<u> </u> A32.	5830653	11/03/1998	Froehler
<u> </u> A33.	5859221	01/12/1999	Cook
<u> </u> A34.	5872232	02/16/1999	Cook
<u> </u> A35.	5899136	03/30/1999	Scaringe
<u> </u> A36.	5898031	04/27/1999	Cooke
<u> </u> A37.	5856455	01/05/1999	Cook
<u> </u> A38.	6998206	12/07/1999	Cpwsert
<u> </u> A39.	6005087	12/21/1999	Cook
<u> </u> A40.	6116197	12/26/2000	Cook
<u> </u> A41.	6204027	03/20/2001	Goodchild
<u> </u> A42.	6277967	08/21/2001	Manoharan
<u> </u> A43.	6242589	06/15/2001	Cook
<u> </u> A44.	6391636	05/21/2002	Monia

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

<u> </u> A45.	6399297	06/04/2002	Baker
<u> </u> A46.	6420546	07/16/2002	Seliger
<u> </u> A47.	6451991	09/17/2002	Martin
<u> </u> A48.	6458940	10/01/2002	Roberts
<u> </u> A49.	6485974	11/26/2002	Papoff
<u> </u> A50.	6531584	03/11/2003	Cook
<u> </u> A51.	6608035	08/19/2003	Agrawal
<u> </u> A52.	6645943	11/11/2003	Agrawal
<u> </u> A53.	6653458	11/25/2003	Manoharan
<u> </u> A54.	6673611	01/06/2004	Thompson
<u> </u> A55.	6809193	10/26/2004	McKay
<u> </u> A56.	6683167	01/27/2004	Metelev
<u> </u> A57.	6936467	08/30/2005	Kmiec
<u> </u> A58.	7173014	02/06/2007	Agrawal
<u> </u> A59.	7045609	05/16/2006	Metelev
<u> </u> A60.	7078196	07/18/2006	Tuschl

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A61.	6600032	07/29/2003	Manoharan
_____ A62.	6043352	03/28/2000	Manoharan
_____ A63.	6841542	01/11/2005	Bartlemez
_____ A64.	4984624	05/15/1990	Suhadolnik
_____ A65.	5023243	06/11/1991	Tullis
_____ A66.	5138045	04/11/1992	Cook
_____ A67.	5151510	09/29/1994	Stec
_____ A68.	5214136	05/25/1993	Lin
_____ A69.	5264562	11/23/1993	Matteucci
_____ A70.	5264564	11/23/1993	Matteucci
_____ A71.	5286717	02/15/1994	Cohen
_____ A72.	5399676	03/21/1995	Froehler
_____ A73.	5414077	05/09/1995	Lin
_____ A74.	5434257	07/18/1995	Matteucci
_____ A75.	5457191	01/10/1995	Cook
_____ A76.	5459255	10/17/1995	Cook

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A77.	5484908	01/16/1996	Swaminathan
_____ A78.	5489677	02/06/1996	Sangvhi
_____ A79.	5502177	03/26/1996	Matteucci
_____ A80.	5514786	05/07/1996	Cook
_____ A81.	5532130	07/02/1996	Alul
_____ A82.	5578718	11/26/1996	Cook
_____ A83.	5580767	07/01/1997	Cowser
_____ A84.	5587361	12/24/1996	Cook
_____ A85.	5587469	12/24/1996	Cook
_____ A86.	5587470	12/24/1996	Cook
_____ A87.	5594121	01/14/1997	Froehler
_____ A88.	5596086	01/21/1997	Matteucci
_____ A89.	5608046	03/04/1997	Cook
_____ A90.	5610289	03/11/1997	Cook
_____ A91.	5614617	03/25/1997	Cook
_____ A92.	5635488	06/03/1997	Cook

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

<input type="checkbox"/> A93.	5637573	06/10/1997	Agrawal
<input type="checkbox"/> A94.	5644048	07/01/1997	Yau
<input type="checkbox"/> A95.	5645985	07/08/1997	Froehler
<input type="checkbox"/> A96.	5652355	07/29/1997	Froehler
<input type="checkbox"/> A97.	5652356	07/29/1997	Agrawal
<input type="checkbox"/> A98.	5670633	09/23/1997	Cook
<input type="checkbox"/> A99.	5677437	10/14/1997	Teng
<input type="checkbox"/> A100.	5681941	10/28/1997	Cook
<input type="checkbox"/> A101.	5708161	01/13/1997	Reese
<input type="checkbox"/> A102.	5734041	03/31/1998	Just
<input type="checkbox"/> A103.	5750666	05/12/1998	Caruthers
<input type="checkbox"/> A104.	5756710	05/26/1998	Stein
<input type="checkbox"/> A105.	5757710	05/26/1998	Li-Chun
<input type="checkbox"/> A106.	5763588	06/09/1998	Metteucci
<input type="checkbox"/> A107.	5767264	06/16/1998	Otlvos
<input type="checkbox"/> A108.	5770713	06/23/1998	Imbach

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A109.	5773601	06/30/1998	Agrawal
_____ A110.	6777092	07/07/1998	Cook
_____ A111.	5792844	08/11/1998	Sangvhi
_____ A112.	5792847	08/11/1998	Bhur
_____ A113.	5811534	09/22/1998	Cook
_____ A114.	5817781	10/06/1998	Swaminathan
_____ A115.	5834607	11/10/1998	Manoharan
_____ A116.	5849902	12/15/1998	Arrow
_____ A117.	5852182	12/28/1998	Cook
_____ A118.	5852188	12/22/1998	Cook
_____ A119.	5883237	03/16/1999	Stec
_____ A120.	5899136	03/30/1999	Scaringe
_____ A121.	5912339	06/15/1999	Miller
_____ A122.	5914396	06/22/1999	Cook
_____ A123.	5919619	07/06/1999	Tullis
_____ A124.	5948903	09/07/1999	Cook

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A125.	5965722	10/12/1999	Ecker
_____ A126.	5973136	10/26/1999	Agrawal
_____ A127.	5989912	11/23/1999	Arrow
_____ A128.	5998206	12/07/1999	Cowser
_____ A129.	6005094	12/21/1999	Simon
_____ A130.	6005096	12/21/1999	Matteucci
_____ A131.	6007992	12/28/1999	Lin
_____ A132.	6028183	02/22/2000	Lin
_____ A133.	6060592	05/09/2000	Acevedo
_____ A134.	6111085	08/29/2000	Cook
_____ A135.	6114513	09/05/2000	Cook
_____ A136.	6127533	10/03/2000	Cook
_____ A137.	6140482	10/31/2000	Lyer
_____ A138.	6143881	11/07/2000	Metelev
_____ A139.	6147200	11/14/2000	Manoharan
_____ A140.	6153737	11/28/2000	Manoharan

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

VIA eFILE

Form PTO-1449

Sheet 10 of 31

Applicant: Devin Leake

Serial No.: 10/551,350

Att'y Docket No.: 16542.16.1a.3

Filing Date: October 19, 2006

Group: 1635

Confirmation No.: 3238

For: Modified Polynucleotides for Use in RNA Interference

_____ A141.	6166188	12/26/2000	Cook
_____ A142.	6166197	12/26/2000	Cook
_____ A143.	6172209	01/09/2001	Manoharan
_____ A144.	6197944	03/06/2001	Walder
_____ A145.	6222025	04/24/2001	Cook
_____ A146.	6235886	05/22/2001	Manoharan
_____ A147.	6239265	05/29/2001	Cook
_____ A148.	6242591	06/05/2001	Cole
_____ A149.	6265558	06/24/2001	Cook
_____ A150.	6271358	08/07/2001	Manoharan
_____ A151.	6277892	08/21/2001	Fraser
_____ A152.	6300319	10/09/2001	Manoharan
_____ A153.	6307040	10/23/2001	Cook
_____ A154.	6322987	11/27/2001	Cook
_____ A155.	6326358	12/04/2001	Manoharan
_____ A156.	6335437	01/01/2002	Manoharan

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A157.	634614	02/12/2002	Metelev
_____ A158.	6348312	02/19/2002	Peyman
_____ A159.	6358931	03/19/2002	Cook
_____ A160.	6359124	03/19/2002	Ecker
_____ A161.	6369209	04/09/2002	Manoharan
_____ A162.	6369040	04/09/2002	Acevedo
_____ A163.	6380368	04/30/2002	Froehler
_____ A164.	6395492	06/04/2002	Manoharan
_____ A165.	6403781	06/11/2002	Cole
_____ A166.	6410702	06/25/2002	Swaminathan
_____ A167.	6414127	07/02/2002	Lin
_____ A168.	6440943	08/27/2002	Cook
_____ A169.	6447998	09/10/2002	Froehler
_____ A170.	6476205	11/05/2002	Bhur
_____ A171.	6495672	12/17/2002	Froehler
_____ A172.	6525031	02/25/2003	Manoharan

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

_____ A173.	6534639	03/18/2003	Manoharan
_____ A174.	6476752	06/10/2003	Manoharan
_____ A175.	6624293	09/23/2003	Agrawal
_____ A176.	6677445	01/13/2004	Innis
_____ A177.	6811975	11/02/2004	Cook
_____ A178.	6846921	01/25/2005	Innis
_____ A179.	6673611	01/06/2004	Thompson
_____ A180.	6977245	12/20/2005	Klinman
_____ A181.	6958239	10/25/2005	Arrow
_____ A182.	7067497	06/27/2006	Hanecak
_____ A183.	6881831	04/19/2005	Lyer
_____ A184.	5777092	11/06/2003	Morrissey
_____ A185.	6005096	12/21/1999	Matteucci

U.S. Publication Documents

Examiner <u>Initial*</u>	Publication Number	Date Published	Name
_____ A186.	20050239728	10/27/2005	Pachuk

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A187.	20040266707	12/30/2004	Leake
_____ A188.	20030203486	10/30/2003	Sabatini
_____ A189.	20030228601	12/11/2003	Sabatini
_____ A190.	20030170642	09/11/2003	Caldwell
_____ A191.	20020006664	01/17/2002	Sabatini
_____ A192.	20030170891	09/11/2003	McSwiggen
_____ A193.	20040019008	01/29/2004	Lewis
_____ A194.	20040009938	01/15/2004	Manoharan
_____ A195.	20050020525	01/27/2005	McSwiggen
_____ A196.	20040014956	01/22/2004	Woolf
_____ A197.	20040096880	05/20/2004	Kmiec
_____ A198.	20040147022	07/29/2004	Baker
_____ A199.	20040147023	07/29/2004	Baker
_____ A200.	20040248299	12/09/2004	Jayasena
_____ A201.	20050026160	02/03/2005	Allerson
_____ A202.	20060178324	08/10/2006	Hadwiger

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A203.	20020128466	09/12/2002	Cole
_____ A204.	20020160379	10/31/2002	Cook
_____ A205.	20030036516	02/20/2003	Agrawal
_____ A206.	20030045698	03/06/2003	Manoharan
_____ A207.	20030096770	05/22/2003	Krotz
_____ A208.	20030135033	07/17/2003	Klippel-Giese
_____ A209.	20030190626	10/09/2003	Ravikumar
_____ A210.	20040009938	01/15/2004	Manoharan
_____ A211.	20040014108	01/22/2004	Eldrup
_____ A212.	20040014957	01/22/2004	Eldrup
_____ A213.	20040043948	03/04/2004	Baker
_____ A214.	20040053875	03/18/2004	Kruetzer
_____ A215.	20040054155	03/18/2004	Woolf
_____ A216.	20040072779	04/15/2004	Kruetzer
_____ A217.	20040102408	05/27/2004	Kruetzer
_____ A218.	20040167090	08/26/2004	Monaharan

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A219.	20050020521	01/27/2005	Rana
_____ A220.	20050130181	06/16/2005	McSwiggen
_____ A221.	20040058886	03/25/2004	Scaringe
_____ A222.	20050255487	11/17/2005	Khorova
_____ A223.	20040204420	10/14/2004	Rana
_____ A224.	20030206887	11/06/2003	Morrissey
_____ A225.	20060127891	06/15/2006	McSwiggen
_____ A226.	20050181385	08/18/2005	Linsley
_____ A227.	20050059044	03/17/2005	Graham
_____ A228.	20060115461	06/01/2006	Robertson
_____ A229.	20060110829	05/25/2006	Robertson
_____ A230.	20060166234	07/27/2006	Robertson
_____ A231.	20060110766	05/25/2006	Robertson
_____ A232.	20050223427	10/06/2005	Leake
_____ A233.	20060223777	10/05/2006	Vermeulen
_____ A234.	20070167384	07/19/2007	Leake

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

VIA eFILE
Form PTO-1449

Sheet 16 of 31

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A235.	20070173476	07/26/2007	Leake
_____ A236.	20070269889	11/22/2007	Leake
_____ A237.	20040198640	10/07/2004	Leake
_____ A238.	20040266707	12/30/2004	Leake

U.S. Application Documents

Examiner <u>Initial*</u>	Application <u>Number</u>	Date <u>Filed</u>	Name
_____ A239.	11/857,732	09/19/2007	Khvorova

Foreign Patent Documents

Examiner <u>Initial*</u>	Document <u>Number</u>	Publ. <u>Date</u>	Country or <u>Patent Office</u>	Sub <u>Class</u>	<u>Class</u>	Trans- <u>lation</u>
_____ A240.	1559785	08/03/2005	EP			
_____ A241.	05-097992	10/20/2005	WO			
_____ A242.	05-078094	08/25/2005	WO			
_____ A243.	04-078946	09/16/2004	WO			
_____ A244.	04-045543	06/03/2004	WO			

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A245.	04-011624	02/05/2004 WO
_____ A246.	01-020015	03/22/2001 WO
_____ A247.	00-012454	03/09/2000 WO
_____ A248.	97-042819	11/20/1997 WO
_____ A249.	06-071410	07/06/2006 WO
_____ A250.	06-058046	06/01/2006 WO
_____ A251.	06-058048	06/01/2006 WO
_____ A252.	06-060246	06/08/2006 WO
_____ A253.	04-009847	01/29/2004 WO
_____ A254.	02-094185	11/28/2002 WO
_____ A255.	1389637	02/18/2004 EP
_____ A256.	93-004204	03/04/1993 WO
_____ A257.	94-021825	09/29/1994 WO
_____ A258.	94-026887	11/24/1994 WO
_____ A259.	03-070193	08/28/2003 WO
_____ A260.	03-070918	08/28/2003 WO

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

VIA eFILE
Form PTO-1449

Sheet 18 of 31

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

_____ A261. 03-074654 09/12/2003 WO
_____ A262. 05-019453 03/03/2005 WO
_____ A263. 04-015107A2 02/19/2004 WO
_____ A264. 04-015107A3 02/19/2004 WO
_____ A265. 03-072705A2 09/04/2003 WO
_____ A266. 03-072705A3 09/04/2003 WO
_____ A267. 02-044321 06/06/2002 WO
_____ A268. 04-080406 09/23/2004 WO
_____ A269. 04-091515 10/28/2004 WO
_____ A270. 04-109290 12/16/2004 WO
_____ A271. 99-032619 07/01/1999 WO
_____ A272. 01-075164 10/11/2001 WO
_____ A273. 1114623 10/17/2001 EP
_____ A274. 03-064625 08/07/2003 WO
_____ A275. 03-064626 08/07/2003 WO
_____ A276. 94-001550 01/20/1994 WO

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Other Documents

(including author (if listed), title, relevant pages, date of publication including at least month and year).

Examiner
Initial*

_____ A277. Vermeulen, A. et al., "The Contribution of dsRNA Structure to Dicer Specificity and Efficiency"; RNA, 11:674-682 (2005).

_____ A278. Atlas Venture, Dharnacon and Akceli Announce Research Collaboration to Combine reverse Transfection and siRNA for High Throughput Gene Silencing, www.atlasventure.com/home/news_content.asp?ne_id=1741 (08/24/04).

_____ A279. Ambion, High Throughput siRNA Delivery in Vitro: From Cell Lines to Primary Cells, TechNotes 12(2); www.ambion.com/techlib/tn/122/3.html (Downloaded 7/18/05).

_____ A280. Boston Business Journal, "Biotech firm Akceli wins first patent," www.bizjournals.com/boston/stories/2003/04/07/daily13.html

_____ A281. Dhellin, Oliver et al., "Functional differences between the human LINE retrotransposon and retroviral reverse transcripts for in vivo mRNA reverse transcription," the EMBO Journal, Vol. 16, pp. 6590-6602; 1997.

_____ A282. Press Release, "Dharmacon Launches siArray RTF™ siRNA Libraries - First Ever Using Reverse Transfection Technology, qb Perbio Solutions for Life Science; Layfayette, Colo.; April 22, 2005.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

_____ A283. Hannon, Gregory J., "RNA Interference," Nature, Vol. 418; July 11, 2002. (www.nature.com/nature)

_____ A284. Ketting, R.F. et al., (2001) Dicer Functions in RNA Interference and in Synthesis of small RNA Involved in Developmental Timing in C. elegans Genes Dev., 2001 Oct 15, 15(20):2654-9

_____ A285. Paddison, P.J., et al., "A Resource for Large -Scale RNA Interference-Based screens in mammals," Nature, Vol 428; March 25, 2004 (www.nature.com/nature).

_____ A286. He, L. et al, "MicroRNAs with a big role in gene regulation," Nature, Vol. 5, pp. 522-532, July 2004 (www.nature.com/reviews/genetics).

_____ A287. Hannon, Gregory J. et al, "Unlocking the Potential of the Human Genome with RNA Interference," Nature, Vol 431; Sept 16, 2004 (www.nature.com/nature)

_____ A288. Hammond, S.M., et al. "Post-Transcriptional Gene Splicing by Double-Stranded RNA," Nature, Vol. 2; Feb., 2001 (www.nature.com/reviews/genetics)

_____ A289. Hannon G., "Growth control in mammalian cells: Post transcriptional gene silencing" (www.cshl.org/public/SCIENCE/hannon.html) (2004).

_____ A290. Denali, A.M. et al., "RNAi: an ever growing puzzle," TRENDS in Biochemical Sciences, Vol. 28, No. 4, April 2003.

_____ A291. Silva, J.M. et al., "RNA interference: a promising approach to antiviral therapy?" Trends in Molecular Medicine, Vol.8, No. 11, November 2002.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

_____ A292. Qiagen Website (www.qiagen.com), Transfection Cell Database, Using siRNA (dsRNA) as Nucleic Acid, Cell Records

_____ A293. "The HiPerformance Algorithm Designs Highly Potent and Specific siRNA", Technical Information, www1.qiagen.com/literature/resources/RNAi/1030174_TI_GS_siRNA_0105.pdf; downloaded 7/18/05.

_____ A294. Ziauddin, J. et al., "Microarrays of cells expressing defined cDNAs." Letters to Nature, Nature, 411, pp. 107-110 (03 May 2001); doi:10.1038/35075114.

_____ A295. Reverse Transfection Homepage and Guide, Ziauddin, J. and Sabatini, D., http://staffa.wi.mit.edu/sabatini_public/reverse/transfection/content (downloaded 8/24/04).

_____ A296. Product Insert, siARRAY™ siRNA Libraries, Version 2.0 Dharmacon RNA Technologies

_____ A297. SuperArray Bioscience Corporation, Introducing siRNA Array Plates, www.superarray.com/RNAiArrayPlates.php (downloaded 7/18/2005)

_____ A298. SuperArray Bioscience Corporation, siRNA Array Plates, www.superarray.com/manuals/Present_ArrayPlates.pdf (downloaded 7/18/2005)

_____ A299. SuperArray Bioscience Corporation, Newly Released SureSilencing™ Mouse siRNA Products, www.superarray.com/siRNAnew.php?sp=Mouse (downloaded 7/18/2005)

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

A300. SuperArray Bioscience Corporation, Newly Released SureSilencing™ Human siRNA Products, www.superarray.com/siRNAnew.php?sp=Human (downloaded 7/18/2005)

A301. QIAGEN, Transfection Reagent Selector Kit Handbook, January 1999.

A302. Bernstein, E., et al., "The rest is Silence," RNA (2001), 7:1509-1521. Cambridge University Press

A303. Mousses et al., RNAi Microarray Analysis in Cultured Mammalian Cells. Genome Research 2003, Vol. 13, Pages 2341-2347

A304. Vanhecke et al., High-Throughput Gene Silencing Using Cell Arrays, Oncogene 01 November 2004 Vol. 23, pages 8353-8358.

A305. Silva et al., RNA Interference Microarrays, High-Throughput Loss-of-Function Genetics in Mammalian Cells. PNAS. 27 April 2004, Vol. 101, No. 17, Pages 6548-6552

A306. Kumar et al., High-Throughput Selection of Effective RNAi Probes for Gene Silencing, Genome Research, 2003, Vol 13, pp. 2333-2340.

A307. Bailey et al, Applications of Transfected Cell Microarrays in High-Throughput Drug Discovery Today, 2002, Vol 7, pp S113-S118.

A308. Homna et al., The Role of Atelococollagen-based cell Transfection array in High-Throughput Screening of Gene Functions and in Drug Discover, Current Drug Discovery Technologies, December 2004, Vol 1, pp 287-294

A309. International Search Report from PCT/US2005/042407, September 8, 2006, 2 pages.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

- _____ A310. International Preliminary Report on Patentability from PCT/US2005/042407, May 22, 2007, 4 pages.
- _____ A311. Written Opinion from PCT/US2005/042407, June 20, 2006, 3 pages.
- _____ A312. International Search Report from PCT/US2005/042403, September 26, 2006, 4 pages.
- _____ A313. International Preliminary Report on Patentability from PCT/US2005/042403, May 22, 2007, 4 pages
- _____ A314. Written Opinion from PCT/US2005/042403, June 8, 2006, 3 pages.
- _____ A315. International Search Report from PCT/US/042385, April 5, 2007, 3 pages.
- _____ A316. International Preliminary Report on Patentability from PCT/US2005/042385, May 22, 2007, 4 pages.
- _____ A317. Written Opinion from PCT/US2005/042385 January 29, 2007, 3 pages.
- _____ A318. International Search Report from PCT/US2005/042404, May 22, 2007, 5 pages.
- _____ A319. International Preliminary Report on Patentability from PCT/US2006/042404, May 22, 2007, 5 pages.
- _____ A320. Written Opinion from PCT/US2006/042404, March 7, 2007, 4 pages.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

- _____ A321. Amarzguioui et al., Tolerance for Mutations and Chemical Modifications in siRNA, 2003, Nucleic Acids Research, Vol. 31, No. 2, pages 589-595 Oxford University Press
- _____ A322. Parrish et al., Functional Anatomy of a dsRNA Trigger: Differential Requirement for the Two Trigger Strands in RNA Interference, November 2000, Molecular Cell, Vol. 6, pages 1077-1087.
- _____ A323. Elbashir et al., RNA Interference is Mediated by 21- and 22-Nucleotide RNAs, January 2001, Genes & Development, Vol. 15, pages 188-200.
- _____ A324. Letsinger et al., Cholesteryl-conjugated Oligonucleotides: Synthesis, properties, and activity as inhibitors of replication of human immunodeficiency virus in cell culture, September 1989, Proc. Natl. Acad. Sci. Vol. 86, pages 6553-6556.
- _____ A325. Boiziau et al. (1995) Antisense 2"-O-alkyl Oligoribonucleotides are efficient inhibitors of reverse transcription, Nucleic Acids Res. 23/1:64-71.
- _____ A326. Chiu et al. (2003) siRNA function in RNAi: A Chemical Modification Analysis, RNA 9/9:1034-1048
- _____ A327. Conrad et al. (1995) Enzymatic synthesis of 2'-modified nucleic acids: identification of important phosphate and ribose moieties in Rnase P substrates, Nucleic Acids Res. 23/11:1845-1853
- _____ A328. Czauderna et al. (2003) Structural Variations and Stabilizing modifications of synthetic siRNAs in mammalian cells, Nucleic Acids Res. 31/11:2705-2716
- _____ A329. Grunweller et al. (2003) Comparison of different antisense strategies in mammalian cells using locked nucleic acid, 2'-O-methyl RNA,

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For:

Devin Leake
10/551,350
October 19, 2006
3238
Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

phosphorothioates and small interfering RNA, Nucleic Acids Res. 31/12:3185-3193

A330. Holen et al. (2003) Similar behavior of single-strand and double-strand siRNAs suggests they act through a common RNAi pathway, Nucleic Acids Res. 31/9:2401-2407

A331. Johansson et al. (1994) Target-specific arrest of mRNA translation by antisense 2'-O-Alkyloligoribonucleotides, Nucleic Acids Res. 22/22:4591-4598

A332. Larrouy et al. (1995) Rnase H is responsible for the non-specific inhibition of in vitro translation by 2'-O-alkyl chimeric oligonucleotides: high affinity or selectivity, a dilemma to design antisense oligomers, Nucleic Acids Res. 23/17:3434-3440.

A333. Liang, L. et al (2002) Optimizing the delivery systems of chimeric RNA-DNA oligonucleotides: Beyond general oligonucleotide transfer, Eur J. Biochem 269:5953-5758.

A334. Majlessi et al. (1998) Advantages of 2'-O-methyl oligoribonucleotide probes for detecting RNA targets, Nuclic Acids Res.26/9:2224-2229

A335. Monia et al. (1993) Evaluation of 2'-Modified Oligonucleotides Containing 2'-Deoxy gaps as Antisense Inhibitors of Gens Expression, J. Biol. Chem. 268/19:14514-14522.

A336. Nykanen et al. (2001) ATP Requirements and Small Interfering RNA Structure in the RNA Interference Pathway, Cell 107:309-321

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

- A337. Stump et al. (1999) The use of modified primers to eliminate cycle sequencing artifacts, Nucleic Acids Res. 27/23:4642-4648
- A338. Uchiyama et al. (1994) Studies of the Interactions Between Escherichia coli Ribonuclease HI and Its Substrate, J Mol. Biol. 243:782-791
- A339. Braasch, D. et al (2003) "RNA Interference in Mammalian Cells by Chemically-modified RNA" Biochemistry 42/26:7967-7995
- A340. Harborth, J. et al. (2003-4) "Sequence, Chemical, and Structural Cariation of Small Interfering RNAs and Short Harpin RNAs and the Effect on Mammalian Gene Silencing" Antisense & Nucleic Acid Drug Development 13/2:83-105
- A341. Elbashir, S. M. et al (2001) Functional Anatomy of siRNAs for Mediating efficient RNAi in Drosophila melanogaster embryo lysate, The EMBO Journal 20/23:6877-6888
- A342. Jackson, A. L. et al. (2003) Expression Profiling Reveals off-target Gene Regulation by RNAi, Nature Biotechnology 21/6:635-637
- A343. Lubini et al. Stabilizing effects of the RNA 2'-sustituent Crystal Structure of an Oligodeoxynucleotide duplex Containing 2'-O-methylated adenosines. Chem. Biol. 1004 Sept 1(1): 39-45
- A344. Dharmacon RNA Technologies, Dharmacon and Merck's Rosetta Collaborate to Assess Multiple Factors Affecting Efficacy and Specificity of siRNA for Gene Silencing, October 8, 2003, Press Release, Layfette, CO
- A345. Rosetta siRNA Experiments Performed in 2007, pp 1-11

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

- A346. Rossi, J., "A Cholesterol Connection in RNAi," *Nature*, November 2004, Vol. 432, pp. 155-156,
- A347. Soutscheck, J., et al., "Therapeutic Silencing of an Endogenous Gene by Systemic Administration of Modified siRNAs," *Nature*, November 2004, Vol. 432, pp. 173-178.
- A348. Kim, D. H. et al., "Synthetic dsRNA Dicer Substrates Enhance RNAi Patency and efficacy, *Nature Biotechnology*, Advanced Online Publication, (2004), p. 1-5, Published Online December 26, 2004.
- A349. Paddison, Patrick J. et al., "Short hairpin RNAs "shRNAs) induce sequence-specific silencing in mammalian cells", *Genes & Development* 16, (2002), p. 946-958.
- A350. Zhang, Haidi et al., "Human Dicer Preferentially cleaves dsRNAs at their termini without a requirement for ATP", *The EMBO Journal* Vol. 21, No. 21, (2002), p. 5875-5885.
- A351. Hohjoh, Hirohiko, "Enhancement of RNAi activity by improved siRNA duplexes", *FEBS letters* 557, (2004), p. 193-198.
- A352. Ma, Jin-Baio et al., "Structural basis for overhanging-specific small interfering RNA recognition by PAZ domain", *Nature*, Vol. 429, May 20, 2004, p. 318-322.
- A353. Siolas, Despina, "Synthetic shRNAs as potent RNAi triggers", *Nature Biotechnology*, p. 1-5, published online December 26, 2004.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

- A354. Zeng, Yan et al., "Both Natural and Designed Micro RNAs Technique Can Inhibit the Expression of Cognate mRNAs When Expressed in Human Cells", Molecular Cell, Vol. 9, June 2002, p. 1327-1333
- A355. Holen et al. (2002) Positional Effects of short interfering RNAs targeting the human coagulation trigger Tissue Factor, Nucleic Acid Research, 30/8:1757-1766.
- A356. International Search Report from PCT/US05/011008, March 31, 2005, 5 Pages
- A357. Written Opinion from PCT/US05/011008, March 31, 2005, 6 Pages
- A358. International Search Report from PCT/US05/003365, April 2, 2005, 7 Pages
- A359. Written Opinion from PCT/US05/003365, April 2, 2005, 10 Pages
- A360. Notification Regarding Review of Justification for Invitation to Pay Additional Fees from PCT/US05.003365, April 2, 2005, 4 Pages
- A361. Office Action dated 03/21/07 cited in Application No. 11/283,484 (Copy Attached)
- A362. Office Action dated 07/08/08 cited in Application No. 11/283,484 (Copy Attached)
- A363. Office Action dated 10/15/08 cited in Application No. 11/283,482 (Copy Attached)
- A364. Office Action dated 11/03/08 cited in Application No. 11/283,483 (Copy Attached)

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

- A365. Office Action dated 12/09/08 cited in Application No. 11/283,481 (Copy Attached)
- A366. Office Action dated 08/23/05 cited in Application No. 11/019,831 (Copy Attached)
- A367. Office Action dated 02/21/06 cited in Application No. 11/019,831 (Copy Attached)
- A368. Office Action dated 06/28/06 cited in Application No. 11/019,831 (Copy Attached)
- A369. Office Action dated 02/09/07 cited in Application No. 11/019,831 (Copy Attached)
- A370. Office Action dated 10/30/07 cited in Application No. 11/019,831 (Copy Attached)
- A371. Office Action dated 09/04/08 cited in Application No. 11/019,831 (Copy Attached)
- A372. Office Action dated 09/12/08 cited in Application No. 11390,829 (Copy Attached)
- A373. Office Action dated 02/22/08 cited in Application No. 11/051,195 (Copy Attached)
- A374. Office Action dated 12/18/08 cited in Application No. 11/051,195 (Copy Attached)

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

VIA eFILE
Form PTO-1449

Sheet 30 of 31

Applicant: Devin Leake
Serial No.: 10/551,350 Att'y Docket No.: 16542.16.1a.3
Filing Date: October 19, 2006 Group: 1635
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

A375. Office Action dated 12/31/08 cited in Application No. 11/619,993 (Copy Attached)

A376. Office Action dated 01/14/05 cited in Application No. 10/406,908 (Copy Attached)

A377. Office Action dated 04/05/05 cited in Application No. 10/406,908 (Copy Attached)

A378. Office Action dated 09/23/05 cited in Application No. 10/406,908 (Copy Attached)

A379. Office Action dated 01/27/05 cited in Application No. 10/613,077 (Copy Attached)

A380. Office Action dated 04/12/05 cited in Application No. 10/613,077 (Copy Attached)

A381. Office Action dated 09/07/05 cited in Application No. 10/613,077 (Copy Attached)

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

VIA eFILE
Form PTO-1449

Sheet 31 of 31

Applicant: Devin Leake
Serial No.: 10/551,350
Filing Date: October 19, 2006
Confirmation No.: 3238
For: Modified Polynucleotides for Use in RNA Interference

Att'y Docket No.: 16542.16.1a.3
Group: 1635

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

CRB000007109V001

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.